Editorial

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The choice of treatments for varicose veins: A study in trade-offs

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The unprecedented range of treatments now on offer for varicose veins poses dilemmas, uncertainties and incentives for both patients and practitioners. The array of potential treatment combinations, together with the preferences and motives of both patients and specialists, creates a complicated matrix of trade-offs when deciding which to choose. Some of these trade-offs are widely discussed, while others are more arcane. There are some stark contrasts between the trade-offs involved in publicly funded healthcare systems and in the private sector.

Key issues for patients are the simplicity, complexity and discomfort of treatment; recovery and aftercare (including the need for dressings/compression); symptom relief; cosmetic outcome and the cost of treatment, including considerations of insurance coverage.

For those offering venous interventions, the prime focus is successful ablation of veins in the short and longer term. However, this may be tempered by the attraction of methods which are relatively easy and quick to use; and by cost minimisation in publicly funded healthcare systems, or by the desire to maximise income in the private sector.

It is well known that most of the treatments now commonly used for ablation of truncal veins produce good results in the medium term (>90% at three to four years and probably thereafter). This has been the main focus of most studies and applies to traditional surgery, endothermal ablation by laser or radiofrequency and bioadhesive (cyanoacrylate) glue.[1–4] The issue of what adjunctive methods to use for obvious varicosities – phlebectomies, foam or liquid sclerotherapy – and whether to use them concomitantly or sequentially remains somewhat controversial, despite the available evidence.[5–9]

Foam sclerotherapy is somewhat less reliable as the primary treatment for ablation of venous trunks, but there is evidence that this may matter little to the patient in terms of quality of life.[10,11] Foam allows treatment of most or all of the obvious veins in a leg at a single session (notably recurrent varicose veins), and it is a less costly option than any other method.[12] Mechanochemical ablation (MOCA) seeks to capitalise on the simplicity and low cost of foam sclerotherapy, while increasing its effectiveness: but there is a paucity of longer term long evidence, and there are suggestions that it may not produce outcomes which are quite as satisfactory as other methods.[13,14]

Saphenous vein sparing techniques – CHIVA (Cure conservatrice et Hemodynamique de l'Insuffiscance Veineuse en Ambulatoire) and ASVAL (Ambulatory Selective Varicose vein Ablation under Local anesthesia) – are other methods with claimed advantages, which have been promoted but not yet widely adopted for treating for varicose veins.[15–17]

In publicly funded healthcare systems, like the National Health Service (NHS) in the UK, there is a perception that treatment of varicose veins is on the cusp of what should be provided. Despite evidence-based recommendations from The National Institute for Health and Care Excellence (NICE) supporting varicose vein interventions for people with C2s to C6 disease, there are restrictions in much of the UK, limiting varicose vein treatments to those who have complications such as lipodermatosclerosis or ulcers.[18] Elsewhere, treatment for uncomplicated varicose veins is typically given low priority, patients are not normally followed up and there is little or no quality control: but there is a sense of gratitude from patients that they have been treated. The endovenous methods which are used have generally been selected on a local basis and with a focus on cost minimisation. This is in contrast to the private sector where patient experience and cosmetic outcomes are of paramount importance: and follow-up and patient satisfaction are key elements of care.

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Treatments provided in the private sector tend to reflect insurance company reimbursement policies in different countries so, for example, more endothermal ablations are done in the UK and the USA, compared with France where phlebectomies and sclerotherapy were funded, but endothermal ablation was not reimbursed until 2019.[19] Both practitioners and patients may be influenced by the "quick and easy" nature of foam sclerotherapy compared with phlebectomies. Careful phlebectomies can be very time-consuming for the surgeon and a marathon for the patient, but a predictably good result is obtained without delay. Foam sclerotherapy is a much quicker and less demanding treatment for both practitioner and patient; but the veins often take much longer to resolve completely; repeat treatment may sometimes be required: and use of safe volumes of foam typically dictates treating two legs on separate occasions.

Whether to treat one leg at a time, or both legs at a single session, is a complex issue. Using foam, two sessions are commonly needed to avoid an excessive dose of sclerosant foam for veins in both legs. But for other types of treatment, patients will be influenced by the extent and duration of the procedure, the recovery and ability to get back to work and their enthusiasm to "get it all done" in one session.[20] The surgeon's advice may be swayed by both clinical and financial considerations. In Belgium, there has been a sharp increase in bilateral procedures since a stipulation that only one endothermal device will be reimbursed per patient lifetime.[19]

Another consideration is that the endothermal methods (laser and radiofrequency) depend on the use of a generator which needs either to be purchased at significant expense, or else hired. Cyanoacrylate glue, which potentially offers significant advantages to patients (equally good results but with no need for injection of tumescent anaesthesia and less postoperative compression), currently presents strong financial disincentives for adoption, for practitioners with access to a laser or radiofrequency device, because each glue kit is costly, and also many private insurers currently will not fund glue treatment (that may change following recent publication of supportive NICE guidance)[21].

Used skilfully, any of the treatment methods can provide good results for properly selected patients with varicose veins. To what extent individual practitioners should be experienced in a range of methods (and how wide a range) *versus* having consistent experience in just one approach is a matter for debate. They should certainly be able to inform patients well about their options and the likely outcomes and risks. Provision of well-informed choice (including an understanding of the consequences of no treatment) should distinguish venous specialists from the influx of practitioners who advertise and promote a single type of treatment as the solution for everyone who wants to be rid of their varicose veins.

The trade-offs in what is involved in having and providing different treatments, the clinical and cosmetic outcomes and the financial implications for both patients and practitioners need to be well considered and transparent. Venous specialists should balance their personal preferences, the likelihood of an excellent and durable result and offering good value, when they advise individual patients about their choice of treatment for varicose veins.

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References

1. O'Donnell TF, Balk EM, Dermody M, et al. Recurrence of varicose veins after endovenous ablation of the great saphenous vein in randomised trials. *J Vasc Surg Venous and Lymphatic Disorders* 2016; 4: 97–105.
2. Poder TG, Fisette J-F, Bedard SK, et al. Is radiofrequency ablation of varicose veins a valuable option? A systematic review of the literature with a cost analysis. *J Can Chir* 2018; 62: 128–138.

3. Brittenden J, Cotton SC, Cooper D, et al. Five-year outcomes of a randomised trial of treatments for varicose veins. *N Engl J Med* 2019; 381: 912–922.
4. Morrison N, Kolluri R, Vasquez M, et al. Comparison of cyanoacrylate closure and radiofrequency ablation for the treatment of incompetent great saphenous veins: 36-month outcomes of the Ve-Close randomized controlled trial. *Phlebology* 2019; 34: 380–390.
5. Carradice D, Mekako AI, Hatfield J, et al. Randomized clinical trial of concomitant or sequential phlebectomy after endovenous laser therapy for varicose veins. *Br J Surg* 2009; 96: 369–375.
6. El-Sheikha J, Nandhra S, Carradice D, et al. Clinical outcomes and quality of life 5 years after a randomized trial of concomitant or sequential phlebectomy following endovenous laser ablation for varicose veins. *Br J Surg* 2014; 101: 1093–1097.
7. Lane TRA, Kelleher D, Shepherd AC et al. The AVULS Trial – is simultaneous better? *Ann Surg* 2015; 261: 654–661.
8. Mohamed A, Leung C, Hitchman L, et al. A prospective observational cohort study of concomitant versus sequential phlebectomy for tributary varicosities following axial mechanicochemical ablation. *Phlebology* 2019; 34: 627–635.
9. Gibson K, Minjarez R, Gunderson K, et al. Need for adjunctive procedures following cyanoacrylate closure of incompetent great, small and accessory saphenous veins without the use of postprocedure compression: three month data from postmarket evaluation of the VenaSea System (the WAVES Study). *Phlebology* 2019; 34: 231–237.
10. Darvall KAL, Bate GR and Bradbury AW. Patient-reported outcome 5–8 years after ultrasound-guided foam sclerotherapy for varicose veins. *Br J Surg* 2014; 101: 1098–1104.
11. Venermo M, Saarinen J, Eskelinen, et al. Randomized clinical trial comparing surgery, endovenous laser ablation and ultrasound-guided foam sclerotherapy for the treatment of great saphenous varicose veins. *Br J Surg* 2016; 103: 1438–1444.
12. Carroll C, Hummel S, Leaviss J, et al. Systematic review, network meta-analysis and exploratory cost effectiveness model of randomized trials of minimally invasive techniques versus surgery for varicose veins. *Br J Surg* 2014; 101: 1040–1052.
13. Khor SN, Lei J, Kam JW, et al. Clarivein^{TM} – one year results of mechano-chemical ablation for varicose veins in a multi-ethnic Asian population in Singapore. *Phlebology* 2018; 33: 687–694.
14. Mohamed AH, Leung C, Wallace T, et al. Mechanochemical ablation for the treatment of superficial venous incompetence: a cohort study of a single centre's early experience. *Phlebology* 2019; 34: 466–473.
15. Faccini FP, Ermini S and Franceschi C. CHIVA to treat saphenous vein insufficiency in chronic venous disease: characteristics and results. *J Vasc Bras* 2019; 18: e20180099.
16. Bellmunt-Montoya S, Escribano JM, Dilme J, et al. CHIVA method for the treatment of chronic venous insufficiency (Review). *Cochrane Datab Syst Rev* 2015; 6: Art No CD009648.
17. Chastanet S and Pittaluga P. Ten-year outcomes of treatment of varicose veins treated by ambulatory selective ablation of Varices under local anesthetic. *J Vasc Surg Venous and Lymphatic Disorders* 2018; 6: 289.
18. Carradice D, Forsyth J, Mohammed A, et al. Commissioning of varicose vein procedures in England – compliance with NICE guidelines. *Br J Surg Open* 2018; 2: 419–25. DOI:10.1002/bjs.5.95.
19. Hamel-Desnos C. Personal communication. *Societe Francaise de Phlebologie*. October 2019.
20. Campbell WB, Dimson S and Bickerton D. Which treatment would patients prefer for their varicose veins? *Ann R Coll Surg Engl* 1998; 80: 212–214.
21. National Institute for Health and Care Excellence. Cyanoacrylate glue occlusion for varicose veins 2020. www.nice.org.uk/guidance/ipg670